



# State of Utah

DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

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March 4, 1991

Mr. Grant A. Pinkerton  
General Manager  
North Lily Mining Company  
P.O. Box 421  
Eureka, Utah 84628

Dear Mr. Pinkerton:

Re: **Conditional Approval of Permit Amendment, Tintic Heap Leach Project,  
M/023/007, Juab County, Utah**

This Division has completed its review and evaluation of North Lily Mining Company's (NLMC) latest application to amend the approved mining and reclamation permit for the Tintic Heap Leach Project in Juab County, Utah. The application has been determined conceptually complete. The Division is hereby granting its conditional approval for this amendment. Final approval will be issued upon successful resolution of the following conditions:

## CONDITIONS TO BE RESOLVED:

### **R613-004-106, Operation Plan**

In the Engineering Feasibility Report, Facilities Layout and Design section, it is mentioned that if the excavated surface of the base pad for the heap leach is unsuitable material, a six inch layer of material with a specified permeability range will be placed instead. The source of this layer of material is not described (off site, borrow area, etc.). This material may increase the disturbed area for this project and should be clarified by the operator.

In this same section of the feasibility report, the factor of safety for emergency storage is stated as being calculated as emergency flow divided by total available capacity, not including normal inventory or freeboard. The factor of safety calculation should be the total available capacity minus normal inventory, then divided by the emergency flow. The safety factor values contained in the report actually reflect this formula, although the verbal description is to the contrary.

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Once Phase III is created, the factor of safety drops below 1.0. The operator presents the option of reducing the minimum freeboard in the existing ponds from 18 inches to 9 inches in order to mitigate this low safety factor problem. No conversion from inches of freeboard to gallons is presented in the proposed amendment. This conversion would be needed in order to properly evaluate the freeboard option and the safety factor for Phase III. This does not affect the safety factors for Phases I and II.

#### **R613-004-110, Reclamation Plan**

The reclamation plan states that roads will be closed and stabilized, but no area or cost figures associated with road reclamation are presented in the reclamation cost estimate for Phase I, II or III. The roads would need to be ripped to a minimum depth of 12 inches and then treated in the same manner as the other revegetation areas. Measurements taken from drawing 19245-002-162, Vicinity and Site Maps, indicate 1.7 acres of roads. This does not include roads which will be overlain by Phase I facilities. These figures were included in the Division's reclamation estimate.

For clarification purposes, the 1989 Division Reclamation Estimate included the following acreage breakdown for the revegetation figure of 21.0 acres: buildings 1.0 acre, heap leach pad 13.0 acres, clay borrow 2.6 acres, topsoil storage 1.1 acres, ponds 1.2 acres, topsoil storage 1.3 acres, topsoil storage 0.8 acre.

Phase I and III of the amendment imply the removal and relocation of the 1.3 acres and 0.8 acre topsoil stockpiles, respectively, although this is not specifically addressed other than in construction of "the berm", and the topsoil storage area sketched-in immediately east of Phase III and II on the Division 9/29/89 site map. No acreage figure is provided by the operator for this sketched-in topsoil area. Since the Phase I reclamation estimate revegetation figure of 24.6 acres does include a total of 3.2 acres of topsoil stockpiles, the cost of reclaiming the relocated topsoil stockpiles is not an issue. The operator does, however, need to clarify the final disposition of the topsoil stockpiles.

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**R613-004-113, Surety**

The reclamation estimate prepared by the operator for Phase I of the amendment is based on the 1989 Division estimate and is acceptable in general. Minor modifications such as ripping the roads, revegetation of the roads, fence maintenance/monitoring, adjusting the escalation factor to 1.45%, and increasing the number of escalation years to five have been included in the Division Estimate (copy attached). Revegetation costs were included for the Clay Borrow Area, Mammoth Dump and Red Dump Areas until revegetation success is achieved. These three areas have been reclaimed as of the Division's latest (2/27/91) site inspection.

The new reclamation surety estimate totals \$158,900 (1996 dollars). The existing reclamation surety was calculated in 1991 dollars at \$115,000. The form of surety is a Certificate of Deposit which will mature on March 15, 1991, yielding a total plus of \$116,481. The revised \$158,900 **surety will need to be posted before NL begins construction** and developments associated with the proposed Phase expansion. ***The only exception to this will involve the preliminary mobilization set-up required at the Centennial-Eureka mine dump site.***

Proposed Phases II & III were not factored into the Division's reclamation estimate. We will postpone preparing an estimate until more detailed information becomes available from NLMC as to the likelihood that these phases will proceed. Conceptually, we do not object to the additional expansion of the leaching facility which will result should the development of Phase II and III become necessary.

There have been a few processing and paperwork changes that have occurred since NLMC's original surety was approved in 1988. Consequently, the Division requires NLMC to complete some new forms in providing this office with a reclamation surety. We apologize for any inconvenience this may cause. Enclosed is a Reclamation Contract (FORM MR-RC), which must be completed and returned along with NLMC's chosen form of replacement surety. Once you notify us of your chosen form of surety, we can then provide you with any additional surety forms that may be appropriate for attachment to FORM MR-RC.

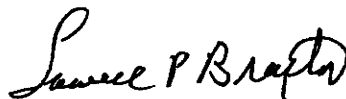
EXISTING SURETY IS  
CO → 1991 DOLLARS  
115,000  
REVISED SURETY

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Once all of the Division's conditions have been adequately addressed by NLMC, we will present an executive summary of the proposed permit amendment to the Board of Oil, Gas & Mining (Board) during a regularly scheduled monthly hearing. We will seek their concurrence on the amount and form of replacement reclamation surety. Final approval of the amendment will be issued following the Board's acceptance of the revised surety.

Please contact me, or any of the Minerals technical staff should you have questions or require additional assistance in preparing your response to this letter.

Sincerely,



Lowell P. Braxton  
Associate Director, Mining

Attachments

DWH/jb

cc: Don Ostler, BWPC  
Rod Thompson, Tooele County  
Minerals staff

M023007.3

# RECLAMATION ESTIMATE

North Lily Mining Company

Tintic Project - Phase I

M/023/007 Juab County

last revision

3/1/91

Prepared by Utah State Division of Oil, Gas & Mining

## Reclamation Details

- All structures and equipment to be removed from the site
- Heap leach pad 50' high to be neutralized to BWPC required levels
- Heap leach regraded to 3:1 by pushing upslope & covered with topsoil
- Revegetation includes application of fertilizer, mulch & seed
- Yankee area not included in this project (=> Exploration)
- Fence maintenance 1/month for 3 yrs (revegetation success)
- TOTAL DISTURBED AREA = minesite + dumps = 68.4 acres
- Minesite = <sup>16.6</sup>heap + <sup>1</sup>bldg + <sup>3.2</sup>all topsoil + <sup>2.6</sup>borrow + <sup>1.2</sup>ponds

Description	Amount	\$/Unit	Cost-\$
-Demolish & dispose of bldgs	lump sum	5,000	5,000
-Regrade building site	1.0 acre	300	300
-Decommission heap leach pad	16.6 acre	500	8,300
-Regrade heap leach pad(3:1 slopes)	153,230 CY	0.20	30,646
-Regrade solution ponds	12,000 CY	0.20	2,400
-Apply topsoil to heap leach area	38,000 CY	1.25	47,500
-Ripping roads at minesite (0.50 mph)	1.7 acre	485	825
-Revegetation at minesite	24.6 acre	447	10,996
-Revege North Tailing Dump (Red Dump)	11.1 acre	447	4,962
-Revege Mammoth Mine Dump	15.0 acre	447	6,705
-Grade Centennial-Eureka area	17.2 acre	300	5,160
-Revege Centennial-Eureka area	17.2 acre	447	7,688
-Grade Grand Central area	0.5 acre	300	150
-Revege Grand Central area	0.5 acre	447	224
-Fence maintenance/monitoring (3 yrs)	3 yr	1,200	3,600
SUBTOTAL			134,456
+ 10% CONTINGENCY			13,446
SUBTOTAL			147,902
+ 5 yr ESCALATION(1.45%)			11,038
TOTAL			158,940
ROUNDED TOTAL IN 1996-\$			\$158,900
*** Cost Per Acre *** = 2,323 \$/acre			